

U.S. Department of Energy Oak Ridge Operations Office Environment Management	No. H & S-01      Rev. 2 Title: <u>Safety Document Review Procedure</u> Effective Date: _____
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### **LIST OF ACRONYMS**

AMEM	Assistant Manager for Environmental Management
BIO	Basis for Interim Operations
COR	Contracting Officer's Representative
DOE	U.S. Department of Energy
ES&H	Environmental, Safety, and Health
FR	Facility Representative
FSET	Facility Safety Engineering Team
M&O	Managing and Operating
OSR	Operational Safety Requirements
SAR	Safety Analysis Report
SER	Safety Evaluation Report
TSR	Technical Safety Requirements
USQ	Unreviewed Safety Question

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## **1.0      PURPOSE**

The purpose of this procedure is to provide guidance for the review of Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Operational Safety Requirements (OSRs), Basis for Interim Operations (BIOs) and other related safety documentation by the U.S. Department of Energy (DOE) Environmental Management (EM). EM has the responsibility of ensuring that an adequate technical and analytical review of SARs and related safety documentation for EM operations has been performed. EM has the responsibility for providing comments to the Managing and Operating (M&O) contractor and resolving issues that arise as a result of these comments. EM also has the responsibility for making recommendations to the approving authority for documentation approval. All Safety Documentation will be centrally coordinated through the EM Safety Documentation Coordinator (Coordinator) as assigned by the Office of Environment, Safety, and Quality. This procedure provides steps and responsibilities for DOE-EM review of Safety Documents. The Program Manager and Facility Representative are responsible for all safety aspects at their respective facilities including the development, timely submission, and update of appropriate safety documentation.

## **2.0      SCOPE**

This procedure applies to EM personnel who coordinate, review, and/or approve reviews of safety documentation.

## **3.0      GENERAL**

### **3.1      Definitions**

#### **3.1.1      Facility Characterization, Documentation Requirements and Approval Authority**

The facility characterization definition, documentation requirements and the approval authority for the different categories of facilities are listed in Table 3-1. Currently there are no EM facilities with a categorization of Category 1 - Nuclear or High Hazard Non-Nuclear.

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**Table 3-1 Facility Characterization, Documentation Requirements, and Approval Authority**

<b>Facility Categorization</b>	<b>Documentation Required</b>	<b>Approval Authority</b>
<b>Category 1 Nuclear Facilities</b> (Hazard analysis shows the potential for significant offsite consequences)	SAR                      (5480.23)	EM-1 Assistant Secretary for Environmental Management
<b>Category 2 Nuclear Facilities</b> (Hazard analysis shows the potential for significant onsite consequences)	SAR                      (5480.23)	Assistant Manager for Environmental Management
<b>Category 3 Nuclear Facilities</b> (Hazard analysis shows the potential for only significant localized consequences)	Graded SAR      (5480.23)	Assistant Manager for Environmental Management
<b>Radiological Facilities</b> (Facilities that do not meet or exceed the hazard category 3 threshold quantity values published in DOE-STD-1027-92 but still contain some quantity of radioactive material)	Auditable Safety Analysis	Contractor Management
<b>High Hazard Non-Nuclear Facilities</b> (Hazards with a potential for onsite and offsite impacts to large numbers of persons or for major impacts to the environment)	SAR                      (5481.1B)	Assistant Secretary for Environmental Management
<b>Moderate Hazard Non-Nuclear Facilities</b> (Hazards which present considerable potential onsite impacts to people or the environment, but at most only minor offsite impacts)	SAR                      (5481.1B)	Assistant Manager for Environmental Management
<b>Low Hazard Non-Nuclear Facilities</b> (Hazards which	Graded SAR      (5481.1B)	Assistant Manager for Environmental Management

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Facility Categorization	Documentation Required	Approval Authority
present minor onsite and negligible offsite impacts to people and the environment)		
<b>Industrial Facilities</b>	Preliminary Hazard Screening (also already covered by Federal Industrial Standards - 29 CFR 1910 & 1926)	Contractor Management

### 3.2 Responsibilities

#### 3.2.1 Assistant Manager for Environmental Management

The Assistant Manager for Environmental Management (AMEM) has signature approval of Safety Analysis Reports for Hazard Category 2 and 3 Nuclear Facilities and Moderate and Low Hazard Non-Nuclear Facilities.

#### 3.2.2 Group Leader

The Environmental Services and Remediation Management Group Leaders has overall responsibility for the implementation of this procedure and recommends safety documents to the AMEM for approval.

#### 3.2.3 EM Safety Documentation Coordinator

The EM Safety Documentation Coordinator (Coordinator) has responsibility for receiving safety documentation from the M & O Contractor. They are responsible for disseminating it to the appropriate reviewer, Facility Safety Engineering Team (FSET), and Program Manager/Facility Representative. This is sent by formal memorandum as shown in Attachment C to the FSET Leader and Informal Memorandum to Program Manager/Facility Representative as shown in Attachment D. They will consolidate comments from the FSET Team and the Program Manager/Facility Representative or other personnel that have been requested to review the safety documentation. The Coordinator is also responsible for performing a safety and health review of the documentation. They are responsible for developing comments in accordance with the example in Attachment F.

The Coordinator is also responsible for establishing and maintaining a record of approved safety documentation. They are responsible for ensuring that safety

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documentation is reviewed in a timely manner. They will transmit major concerns to the contractor for resolution prior to recommending approval if deemed necessary. (See Attachment B.) They are responsible for obtaining concurrence from the FSET Team and Program Managers / Facility Representatives of the safety documentation and recommending approval to the EM Group Leaders. (See Attachment D.) They will draft the approval letter for the AMEM signature. An example of this approval letter is entitled Facility Safety Authorization Basis for SARs or other related safety documentation in Attachment A.

#### **3.2.4 FSET Team Leader**

The FSET Team Leader is responsible for assigning a safety specialist to perform a technical and analytic review of the safety documentation. They are responsible for ensuring an accurate, thorough and timely review of the documentation. The general time frame for the initial review of a SAR or a BIO is approximately 4 weeks. They are responsible for ensuring that the Safety Evaluation Report (SER) is developed in accordance with the example in FSET-AP-2 DOE Oak Ridge Operations Office Quality and Facility Safety Division Administrative Procedure Review of Bases for Interim Operations (BIOs). (See Attachment E.) They are responsible for ensuring that the submitted document is in compliance with the appropriate DOE Orders and Standards with regard to format and content. (See Attachment G & H.)

#### **3.2.5 Facility Representatives**

Facility Representatives are responsible for reviewing safety documentation on the facilities that they represent. Utilizing actual field knowledge of the facility and its operations they can provide useful comments on the accuracy of the documentation. These comments are then provided to the Coordinator. They are responsible for developing comments in accordance with the example in Attachment F.

#### **3.2.6 Program Managers**

Program Managers are responsible for ensuring a review of safety documentation for their facilities. By utilizing resources with field knowledge of the facility, operations and future plans they can provide useful comments on the accuracy of the documentation. These comments are then provided to the Coordinator. Comments should be developed in accordance with the example in Attachment F.

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## 4.0 **PROCEDURE**

### 4.1 **Documentation Methodology**

The following methodology will be utilized to process the safety documentation review and approval process:

- Step #1 Safety Analysis Reports or other safety documentation received from the M&O contractor are to be directed to the Coordinator.
- Step #2 The Coordinator will prepare a memorandum to formally transmit the documentation to the DOE FSET Leader requesting an independent review of the safety documentation. This memorandum will have a suggested due date. (See Attachment C.)
- Step #3 The Coordinator will send the appropriate Program Manager and/or Facility Representative an informal memorandum requesting that they review the safety documentation for their facilities. (See Attachment D.)
- Step #4 The Coordinator will perform a safety review on the documentation. Comments/concerns will be recorded utilizing the Safety Document Review Report Format found in Attachment F. Additional reviewers may be requested from other technical specialties as needed. They will consolidate all EM responses into one Safety Document Review Report.
- Step #5 The FSET Leader will assign a reviewer to the documentation.
- Step #6 The reviewer will perform an independent analytical and technical review of the safety documentation. An example of a Safety Evaluation Report (SER) is provided as Attachment E - SER Format Example for Safety Analysis Reports (SARs) or related safety documents.
- Step #7 The FSET Leader will prepare a cover memorandum (Attachment E) and return the SER with the cover memo to the Coordinator.
- Step #8 If there are no comments that need resolution the Coordinator will consolidate the SER and Safety Document Review Report. They will complete Steps #9, 10 and 11. If there are major comments that need resolution then they will proceed to Step #12. If there are some minor adjustments that can be informally handled between the Coordinator and the M&O representative then they may choose this alternative rather than issue a formal comment as in step #12.



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Step #9 If the safety documentation is recommended for approval, the Coordinator will prepare a Facility Safety Authorization Basis Letter for the SAR or other related safety documentation to M&O Contractor (Attachment A).

Step #10 The Coordinator will distribute the Transmittal Memo, the SER, the SAR or related safety documentation, and the Facility Safety Authorization Basis (Approval) Letter through the Group Leader, to the Assistant Manager Environmental Management for their approval and signature.

Step #11 The approved Safety Authorization Basis package will be returned to the Coordinator who will distribute it to the appropriate personnel.

Step #12 If there are comments that require resolution prior to approval, then the Coordinator will prepare a Comment Letter to the M&O Contractor for Resolution of Concerns on SARs or Related Safety Documentation (Attachment B). This letter will be signed by the Group Leader. The Coordinator will provide for distribution.

Step #13 Once these concerns are resolved and the revised safety documentation has been received by the Coordinator, then the process will start again at Step #2 and the reviewers will be asked to review the responses to their comments for adequacy.

## **4.2      Review Cycle**

For planning purposes four weeks should be allowed for a typical safety documentation package. The Coordinator is responsible for ensuring that SARs and related safety documentation developed for EM are reviewed in a timely manner.

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## 5.0 **RECORDS**

The following documents comprise the formal record of SAR and related safety documentation review and approval system:

Facility Safety Authorization Basis for SARs or Other Related Safety Documentation to M&O Contractor (Approval Letter) - Attachment A

Comment Letter to M&O Contractor for Resolution of Concerns on SARs or Related Safety Documentation - Attachment B

Safety Evaluation Report (SER) Format Example for Safety Analysis Reports (SARs) or Related Safety Documents - Attachment E

Safety Document Review Report Format - Attachment F

## REFERENCES

DOE 5480.23, Nuclear Safety Analysis Reports

DOE 5480.22, Technical Safety Requirements

DOE 5480.21, Unreviewed Safety Questions

DOE 5481.1B, Safety Analysis and Review System (for non-nuclear facilities only)

DOE 5480.4, Safety Standards (requires compliance with 29 CFR 1910.120 and 1910.119)

DOE-STD-3009-94, Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports

DOE-STD-3011-94, Guidance for the Preparation of DOE 5480.22 (TSR) and DOE 5480.23 (SAR) Implementation Plans

Supplemental Guidance For DOE-STD-3011-94 Basis of Interim Operation (BIO) Documents (issued by LMES)

DOE-EM-STD-5502-94, Hazard Baseline Documentation

DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports

DOE-STD-1082-94, Preparation, Review, and Approval of Implementation Plans for Nuclear Safety Requirements

FSET-AP-2 DOE Oak Ridge Operations Office Quality and Facility Safety Division Administrative Procedure Review of Bases for Interim Operations (BIOs)

ES/CSET-1/R1 Overview and Phase I Implementation

ES/CSET-2/R1 Hazard Screening Guide

ES/CSET-9 Unreviewed Safety Questions Determination application Guide

ES/CSET-15 Safety Classification And Special Design Criteria Development Application Guide

ES/CSET-19 Nuclear Criticality Safety Application Guide

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### LIST OF ATTACHMENTS

- A. Facility Safety Authorization Basis for SARs or Other Related Safety Documentation to M&O Contractor (Approval Letter)
- B. Comment Letter to M&O Contractor for Resolution of Concerns on SARs or Related Safety Documentation
- C. Transmittal Memo to FSET Team Leader Requesting Technical Review of SARs or Related Safety Documentation
- D. Example of an Informal Memorandum Requesting Review of SARs or Related Safety Documentation by DOE Program Managers and/or Facility Representatives
- E. Safety Evaluation Report (SER) Format Example for Safety Analysis Reports (SARs) or Related Safety Documents
- F. Safety Document Review Report Format
- G. Hazard Baseline Documentation
- H. DOE-STD-3009 Requirements

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## ATTACHMENT A

### Facility Safety Authorization Basis for SARs or Related Safety Documentation to M&O Contractor (Approval Letter)

\_\_\_\_\_, Director  
Project Execution Organization  
Environmental Management and  
Enrichment Facilities  
Lockheed Martin Energy Systems, Inc.  
Post Office Box 2003  
Oak Ridge, Tennessee 37831-7123

Dear:

**FACILITY SAFETY AUTHORIZATION BASIS FOR \_\_\_\_\_ (Facility Name)**  
The Department of Energy (DOE) has reviewed the \_\_\_\_\_ (Type of safety document) and \_\_\_\_\_ (Other related safety documentation as needed) for the \_\_\_\_\_ (Name of facility, building number) . I have approved the following documents as the safety authorization basis for this facility.

If you have any questions, please contact \_\_\_\_\_, EM Safety Documentation Coordinator, at \_\_\_\_\_.

Sincerely,

\_\_\_\_\_  
Assistant Manager for  
Environmental Management

Enclosures

cc w/enclosures  
*DOE Project/Program Manager*  
*Leader DOE FSET*  
*DOE Facility Representative*  
*Contractor Facility Manager*

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## ATTACHMENT B

### Comment Letter to M&O Contractor for Resolution of Concerns on SARs or Related Safety Documentation

\_\_\_\_\_, Director  
Project Execution Organization  
Environmental Management and  
Enrichment Facilities  
Lockheed Martin Energy Systems, Inc.  
Post Office Box 2003  
Oak Ridge, Tennessee 37831-7123

Dear:

#### COMMENTS ON THE SAFETY DOCUMENTATION FOR \_\_\_\_\_ (Facility name)

The Department of Energy has reviewed the \_\_\_\_\_ (type of safety documentation and document number) \_\_\_\_\_ for the \_\_\_\_\_ (facility) \_\_\_\_\_. Enclosed are the corresponding Safety Evaluation Report (SER) and Safety Review Comments. These comments require resolution prior to approval by DOE. Please prepare and submit a Response to Comments by (Date).

If you have any questions, please contact \_\_\_\_\_, Safety Documentation Coordinator, at \_\_\_\_\_.

Sincerely,

\_\_\_\_\_, Group Leader

Enclosures

cc w/enclosures  
*DOE Project/Program Manager*  
*DOE Facility Representative*  
*Leader DOE FSET*  
*Contractor Facility Manager*

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## ATTACHMENT C

### Transmittal Memo to FSET Team Leader Requesting Technical Review of SARs or Related Safety Documentation

DATE:

REPLY TO

ATTN OF: **EW-92**

SUBJECT: REQUEST FOR INDEPENDENT REVIEW OF   (DOCUMENT TITLE)  

TO: \_\_\_\_\_, Leader, Facility Safety Engineering Team

The DOE requests an independent technical and analytical review be performed on the   (Document title and number)  . We request your assistance in completing the required review by   (Date)  .

If you have any questions, please contact \_\_\_\_\_, EM Safety Documentation Coordinator, at \_\_\_\_\_.

\_\_\_\_\_, Group Leader

Attachments

cc w/o attachments

DOE Facility Representative

DOE Program Manager

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## ATTACHMENT D

### Example of an Informal Memorandum Requesting Review of SARs or Related Safety Documentation by DOE Program Managers/Facility Representatives

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## MEMORANDUM

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DATE:

TO: \_\_\_\_\_, Program Manager  
       \_\_\_\_\_, Facility Representative

FROM: \_\_\_\_\_, EM Safety Documentation Coordinator

RE:       **REVIEW OF** \_\_\_\_\_ **Document Title**

Attached is a copy of the SAR for the \_\_\_\_\_ (Name of facility) \_\_\_\_\_. Please review and sign the concurrence line at the bottom of this page if you agree and the safety document is adequate. If this document is inadequate please attach your comments to this document and return. I would like to have your response by \_\_\_\_\_ (Date) \_\_\_\_\_.

If you have any questions, feel free to call \_\_\_\_\_, EM Safety Documentation Coordinator. Thanks.

Attachment

\_\_\_\_\_  
 \_\_\_\_\_ (Document title and number)

\_\_\_\_\_ Yes, I concur with this document and have no comments.

\_\_\_\_\_ No, I do not concur with this document. My comments are attached.

\_\_\_\_\_ Signature                      \_\_\_\_\_ Date



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## ATTACHMENT E

### **Safety Evaluation Report (SER) Format Example for Safety Analysis Reports (SARs) or Related Safety Documents (EXAMPLE ONLY)**

#### ***SER Cover Memorandum***

DATE:

REPLY TO

ATTN OF: SE-33:

SUBJECT: SAFETY EVALUATION REPORT FOR THE SAFETY ANALYSIS REPORT FOR \_\_\_\_\_

TO: \_\_\_\_\_, Group Leader

We have reviewed the Lockheed Martin Energy Systems (Type of safety documentation ) for the. The \_\_\_\_\_ is adequate to describe the facility authorization basis. The suggested comments are \_\_\_\_\_. We recommend approval of this SER and (SAR) \_\_\_\_\_. The designated approval authority for Category 3 EM facilities is the Assistant Manager for Environmental Management unless redelgation has been provided.

If you have any questions, please call (Reviewer) at \_\_\_\_\_.

\_\_\_\_\_  
Leader  
Facility Safety Engineering Team

Attachments

cc w/o attachments:

*DOE EM Safety Documentation Coordinator*

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## ATTACHMENT E (Continued)

### *SER Analysis* (from *FSET Procedure, FSET-AP-2*)

I. Title, Number and Revision of Document

II. Name of Reviewer(s) and Date

III. Executive Summary

*Introduction*

*Major Findings*

*Conclusions*

IV. Review Criteria:

#### *Area(s) of Review*

The purpose of this review is to determine the acceptability of the Authorization Basis contained in the   (type)   Document for the   (facility)  . DOE has determined the facility is a Category        Nuclear Facility. The document satisfies DOE 5480.1B in regards to technical requirements. The        is sufficient to establish the safety basis for current facility operations and operational control requirements. Based on the graded approach precept of DOE STD-3009-94, the document satisfies the intent of DOE Orders 5480.22 and 5480.23.

#### *Acceptance Criteria*

The principal review criteria utilized in reviewing the        are from DOE Order 5480.23 Nuclear SARs, DOE STD-300-94, Preparation Guide for DOE Nonreactor Nuclear Facility SARs, DOE STD-1027-92 Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear SARs and limited EM-STD 5502-94 Hazard Baseline Documentation.

V. EVALUATION FINDINGS

#### (SAR, SSA, etc) Summary of Content

The        information is current and correct and has been verified by a walk-through of the facility, the knowledge of the reviewers, the review of appropriate safety documentation or an appropriate combination of the above.

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### ATTACHMENT E (Continued)

The hazards have been identified. The facility hazard classification is \_\_\_\_\_ .

The (SAR) presents the reasons for this level of safety documentation. It provides background about the facility, its current mission, and its contribution to the site mission.

The Facility Description provides \_\_\_\_\_

The Accident analysis and operational control sections identified normal and abnormal occurrences and/or accidents along with any compensatory measures that were planned or implemented.

The Safety Analysis section discusses hazard identification. The safety analysis results (Primarily qualitative) provide the analytical basis for the assurance of safety for the facility. The hazards identified were consistent with those observed during the facility walk-down and documentation review. The analytical methods were adequately described. Source documents were referenced. The impact of postulated accidents on workers and general public were discussed. Dominant accident scenarios were identified. The systems functions and operator actions were identified. An assessment was made of the adequacy of existing safeguards. Potential facility vulnerabilities are primarily earthquakes, other natural phenomena hazards, or worker errors.

The Operational Controls section discussed the Limiting Conditions for Operations and procedural controls in place that maintain the safety envelope of the facility. Defense-in-depth was adequately addressed.

(SAR) Improvements:

*Alternative Implementation/Acceptability*  
*Impact on WMTD Operations*  
*Open Items*

#### VI. RECOMMENDATION FOR APPROVAL

The document is acceptable as the facility authorization basis. (Additional comments)

#### VII. REVIEWER

(Name)

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## ATTACHMENT F

### Safety Document Review Report Format

I. Title, Number, and Revision of Document Being Reviewed

II. Name of Reviewer(s) and Date

III. Executive Summary

The Safety Document Review Report Format consists of a cover page which is an executive summary of comments noted. It will state if there are any major concerns or if the comments are merely editorial in nature. Major Issues are classified M Concerns are classified as C . It is critical that these comments be resolved. All other comments could be classified as L for Clarification/Consistency, E for Editorial, or R for a Recommendation. All L, E, and R comments relate to correcting relatively minor technical errors, requesting additional clarifying text to facilitate an understanding of how the methodology was applied to the facility or to clarify the nature of the facility itself, or addressing apparent inconsistencies between different sections of the document. It is believed that these additions/revisions would greatly improve the overall quality of the document.

IV. Individual Comments - The comments are recorded in the table form listed below. C comments are listed first then the minor comments are listed in the order found in the safety documentation.

### Review Comment Record

(Document Title)	(Date)
<b>Document Ref. #:</b>	<b>Reviewer:</b>
Comment: #      Classification:	Section:
	Response:
Comment: #      Classification:	Section:
	Response:

## ATTACHMENT G

### Hazard Baseline Documentation

NUCLEAR FACILITIES	
Document Type	Documentation Requirements
Safety Analysis Reports	DOE 5480.23 <i>Nuclear Safety Analysis Reports</i> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE-STD-3009-94 <i>Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i>
Technical Safety Requirements	DOE 5480.22 <i>Technical Safety Requirements</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i>
Implementation Plans	DOE 5480.23 <i>Nuclear Safety Analysis Reports</i> DOE 5480.22 <i>Technical Safety Requirements</i> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE-STD-3011-94 <i>Guidance for Preparation of DOE 5480.22 (TSR) and DOE 5480.23 (SAR) Implementation Plans</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i> DOE-STD-1082-94 <i>Preparation, Review, and Approval of Implementation Plans for Nuclear Safety Requirements</i>
Unreviewed Safety Questions	DOE 5480.21 <i>Unreviewed Safety Questions</i>
Basis for Interim Operation	DOE 5480.23 <i>Nuclear Safety Analysis Reports</i> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE-STD-3009-94 <i>Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i> <i>Supplemental Guidance for DOE-STD-3011-94 Basis of Interim Operation (BIO) Documents</i>
Safety Evaluation Report	DOE ORO Quality and Facility Safety Division Administrative Procedure FSET-AP-2 <i>Review of Basis for Interim Operations (BIOs)</i>

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NUCLEAR FACILITIES	
Document Type	Documentation Requirements
Health and Safety Plans	DOE 5480.4, <i>Safety Standards (requires compliance with 29 CFR 1910.120 and 1910.119)</i>
Hazard Screening	DOE 5481.1B <i>Safety Analysis And Review System</i> DOE 5480.23 <i>Nuclear Safety Analysis Reports</i> DOE-STD-3009-94 <i>Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports</i>
Preliminary Hazard Screening	DOE 5481.1B <i>Safety Analysis And Review System</i> DOE 5480.23 <i>Nuclear Safety Analysis Reports</i> DOE-STD-3009-94 <i>Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports</i>
Operational Safety Requirements	DOE 5480.22 <i>Technical Safety Requirements</i> DOE-STD-3009-94 <i>Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports</i> DOE-STD-3011-94 <i>Guidance for Preparation of DOE 5480.22 (TSR) and DOE 5480.23 (SAR) Implementation Plans</i>

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### ATTACHMENT G (Continued)

NON-NUCLEAR FACILITIES	
Document Type	Documentation Requirements
Safety Analysis (includes Preliminary Hazard Screening, Phase I Hazard Screening)	<b>Guidance Only</b> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE-STD-3009-94 <i>Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i>
USQ Like Process	<b>Guidance Only</b> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE 5480.21 <i>Unreviewed Safety Questions</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i> DOE-STD-5502-94 <i>Hazard Baseline Documentation</i>
Implementation Plans	<b>Guidance Only</b> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE-STD-3011-94 <i>Guidance for Preparation of DOE 5480.22 (TSR) and DOE 5480.23 (SAR) Implementation Plans</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i> DOE-STD-1082-94 <i>Preparation, Review, and Approval of Implementation Plans for Nuclear Safety Requirements</i>
Health and Safety Plans	DOE 5480.4, <i>Safety Standards (requires compliance with 29 CFR 1910.120 and 1910.119)</i>
Safety Evaluation Report	DOE ORO Quality and Facility Safety Division Administrative Procedure FSET-AP-2 <i>Review of Basis for Interim Operations (BIOs)</i>

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### ATTACHMENT G (Continued)

RADIOLOGICAL FACILITIES	
Document Type	Documentation Requirements
Safety Analysis (including Auditable Safety Analysis, Preliminary Hazard Screening, Phase I Hazard Screening)	<b>Guidance Only</b> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE-STD-3009-94 <i>Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i> DOE-STD-5502-94 <i>Hazard Baseline Documentation</i>
USQ Like Process	<b>Guidance Only</b> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE 5480.21 <i>Unreviewed Safety Questions</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i> DOE-STD-5502-94 <i>Hazard Baseline Documentation</i>
Implementation Plans	<b>Guidance Only</b> DOE 5481.1B <i>Safety Analysis And Review System</i> DOE-STD-3011-94 <i>Guidance for Preparation of DOE 5480.22 (TSR) and DOE 5480.23 (SAR) Implementation Plans</i> DOE-STD-1027-92 <i>Hazard categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23 (SAR)</i> DOE-STD-1082-94 <i>Preparation, Review, and Approval of Implementation Plans for Nuclear Safety Requirements</i>
Health and Safety Plans	DOE 5480.4, <i>Safety Standards (requires compliance with 29 CFR 1910.120 and 1910.119)</i>
Safety Evaluation Report	DOE ORO Quality and Facility Safety Division Administrative Procedure FSET-AP-2 <i>Review of Basis for Interim Operations (BIOs)</i>



## ATTACHMENT H

### DOE-STD-3009 Requirements

A SAR shall include the results of the safety analysis that identifies the dominant contributors to the risk of the facility so that these vulnerabilities can be better managed. The safety analysis report shall address the following topics:

- (A) Executive summary;
- (B) Applicable statutes, rules, regulations and Departmental Orders;
- (C) Site characteristics;
- (D) Facility description and operation, including design of principal structures, components, all systems, engineered safety features, and processes;
- (E) Hazard analysis and classification of the facility;
- (F) Principal health and safety criteria;
- (G) Radioactive and hazardous material waste management;
- (H) Inadvertent criticality protection;
- (I) Radiation protection;
- (J) Hazardous material protection;
- (K) Analysis of normal, abnormal, and accident conditions, including design basis accidents; assessments of risks; consideration of natural and manmade external events; assessment of contributory and casual events, mechanisms, and phenomena; and evaluation of the need for an analysis of beyond-design-basis accidents; however, the SAR is to exclude acts of sabotage and other malevolent acts since these actions are covered under security protection for the facility.
- (L) Management, organization, and industrial safety provisions;
- (M) Procedures and training;

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### **ATTACHMENT H (Continued)**

- (N) Human factors;
- (O) Initial testing, in-service surveillance and maintenance;
- (P) Derivation of TSRs;
- (Q) Operational safety
- (R) Quality assurance
- (S) Emergency preparedness
- (T) Provisions for decontamination and decommissioning; and
- (U) Applicable facility design codes and standards